

I observed this association between buffalo and turtle on all the three days that I was at Zainabad. On one visit I counted nine turtles basking on their huge mobile islands. I do not

recall seeing a single turtle basking on the edge of the tank throughout my visit. The turtles seemed to be waiting for their basking steeds to arrive, so that they could bask undisturbed.

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ERACH BHARUCHA

22. A NOTE ON THE BREEDING OF ESTUARINE CROCODILE
(*CROCODYLUS POROSUS*, SCHNEIDER) AT NANDANKANAN
BIOLOGICAL PARK, ORISSA

A lone female estuarine crocodile (*Crocodylus porosus*) which has been laying infertile eggs since 1975 at Nandankanan Biological Park, Orissa (Acharjyo and Mishra 1981) was paired with an adult male of the same species procured from Crocodile Research Centre, Kukrail (Uttar Pradesh) from April 1, 1983. Both of them were put together in a specially built breeding pool having a capacity of holding approximately 8,26,000 litres of water and with a depth of 2 metres. The land area of the pool complex is about 1500 square metres. There is a compound wall of 2.1 metres high all around except over a length of 23 metres on the viewer's side. There is provision of filling this pool with fresh water and wetting the surrounding land area at regular intervals. The pool complex has been suitably planted with some local and mangrove vegetation. The details of egg laying from 1975 to 1986 are given in Table 1.

The eggs were laid during the three month period, April-June and the clutch size varied from 16 to 35 eggs (mean 28.67). Though the egg laying was an annual feature from 1975 to 1978 and again from 1984 to 1986, the egg laying was on alternate years from 1979 to 1983.

TABLE 1

Year	Date of egg laying	Number of eggs laid	Remarks
1975	30 May 1975	29	Infertile eggs
1976	4 June 1976	34	Infertile eggs
1977	2 June 1977	35	Infertile eggs
1978	22 May 1978	34	Infertile eggs
1979	No eggs were laid		
1980	16 June 1980	34	Infertile eggs
1981	No eggs were laid		
1982	15 June 1982	33	Infertile eggs
1983	No eggs were laid		
1984	26 April 1984	22	Infertile eggs
1985	15 April 1985	16	Fertile eggs
1986	18 April 1986	21	Fertile eggs

The eggs were laid inside a mound nest consisting of dried leaves, twigs, sticks, soil etc. collected from inside the pool complex. The nests of 1985 and 1986 measured 125 × 135 cm., height 45 cm and 145 × 155 cm, structured underneath a tree at a distance of height 50 cm respectively. The nests were con- about 10 metres from the edge of the pool. The eggs were white and hard shelled. Five infertile eggs of 1985 measured 7.1-7.8 × 4.1-4.6 cm. The mother used to zealously guard the nest from a dug out wallow near the nest

MISCELLANEOUS NOTES

as described earlier by Acharjyo and Mishra (1981).

The details of hatching of eggs laid during 1985 and 1986 are given in Table 2.

TABLE 2

Date of egg laying	Number of eggs laid	Dates of hatching	Number hatched	Incubation period in days	Percentage of hatching
15 April 1985	16	5&6 July 1985	11	82-83	68.75
18 April 1986	21	30 June & 1 July 1986	9	74-75	42.86

Eight newly hatched hatchlings of 1985 measured 28.5-30 cm (mean 29.01 cm) and weighed 55-75 grams (mean 69.63 gm).

This species has been bred in captivity at Higashi Izu zoo, Japan; Singapore zoo and Djakarta zoo (Bustard 1980), at Melbourne zoo (Dunn 1981) and at Madras crocodile Bank (Whitaker, pers. comm.). Earlier workers (Acharjyo and Mishra 1981, Choudhury and Bustard 1979, Daniel 1983, Dunn 1981, Groombridge 1982, Smith 1931, Webb *et al.* 1977, Yangprapakoran 1971) have reported on different aspects of reproductive behaviour of this species both in captivity and free living state.

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